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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/808,845 | 03/25/2004 | Osamu Kakutani | 85A 3518 | 6735 |

3713 7590 11/03/2005

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| EXAMINER | |
|---|---|
| KOCH, GEORGE R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1734 | |

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/808,845 | KAKUTANI, OSAMU | |
| | Examiner | Art Unit | |
| | George R. Koch III | 1734 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 3 recites the limitation "magnetic flux linkage" in lines 4, 7, 11, 14. There is insufficient antecedent basis for this limitation in the claim. It is unclear which magnetic flux linkage is being referenced at any given moment. The magnetic flux linkage associated with the first actuator is interpreted as the first magnetic flux linkage, and the magnetic flux linkage associated with the second actuator is interpreted as the second magnetic flux linkage.

4. Claims 5-9 and 9 are dependent from claim 3 and rejected for the same reason.

5. Claim 4 recites the limitation “a magnetic flux linkage” in multiple locations. There are insufficient antecedent basis for this limitations in the claim. It is unclear which magnet flux linkages are being referenced (a magnetic flux linkage is referenced at lines 9-10 and line 19). The magnetic flux linkages in lines 5-11 associated with the first actuator are examined as being the first magnetic flux linkages, and the magnetic

flux linkages (in lines 13-19) associated with the second actuator are examined as being as the second magnetic flux linkages.

6. Claims 5-9 and 9 are dependent from claim 4 and rejected for the same reason.

***Claim Rejections - 35 USC § 103***

7. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orcutt (US Patent 5,556,022) in view of Nihei (US Patent 6,059,169).

Orcutt discloses a bonding apparatus comprising a bonding head (item 17, ultrasonic wire bonder, see column 3, for example), which performs bonding work on an object of bonding, and a moving mechanism (items 14 and 15), which moves the bonding head to arbitrary positions, said moving mechanism comprising: a first actuator (item 14) comprised of a first movable member (moving coil 14a), which is movable along a linear guide (magnet 14b) rotationally provided (via pivot 13)on a supporting stand, and a drive section, which drives said first movable member, and a second actuator (item 15) comprised of a second movable member (moving coil 15a), which is movable along a linear guide (magnet 15b). Orcutt also discloses that the one end of the first movable member is fastened to the bonding head (i.e., element 33, which is connect to the movable member 14a).

However, Orcutt does not disclose that the second movable member is rotationally provided on a supporting stand, and a drive section, which drives said second movable member or that one end of the second movable member is shaft-

supported by the bonding head, or that both actuators directly drive the tool or bonding head.

However, Nihei discloses (see Figure 2) the use of multiple identical moveable members (AM12 and AM13) with multiple drive members (M2 and M3, and see column 2, lines 1-22) connected to bonding tools, wherein each actuator directly drives the bonding head. The second movable member and drive member provides additional positioning flexibility to the bonding tool. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have added additionally drive members and movable members in the style of the first actuator of Orcutt in order to achieve greater control over the positioning of the bonding tool.

As to claim 2, Orcutt discloses that the first actuator is structured so that the drive section and the linear guide that guides the first movable member are rotationally provided on the supporting stand as an integral unit (see Figures 2 and 3), and the second actuator as modified would also be structured so that the drive section and the linear guide that guides the second movable member are rotationally provided on the supporting stand ms an integral unit.

As to claim 3, Orcutt discloses that the first actuator is comprised of a first movable coil (item 14a) which is said first movable member, and said drive section of the first actuator is fastened to the supporting stand and includes a magnet (item 14b) that provides a magnetic flux linkage to the first movable coil. The size of the first movable coil affects the magnetic flux linkage, and therefore is inherently set based upon conditions in which an amount of magnetic flux linkage, which is applied to the first

movable coil by rotational and linear movements of the first movable coil, is free of changing. Similarly, the second actuator as modified by Nihei would be structurally identical to the first actuator.

Claim 4 is rejected on similar grounds as claim 3 above.

As to claim 5, Orcutt as applied in Claims 1 through 4 and modified by Nihei results in a bonding apparatus wherein a point where a first straight line and a second straight line intersect is set on substantially the center of gravity of the bonding head, said first straight line connecting a center of rotation of the first movable member and a part of the first movable member at which the first movable member is connected to the bonding head, and said second straight line connecting a center of rotation of the second movable member and a part of the second movable member at which the second movable member is connected to the bonding head.

As to claims 6-8, official notice is taken that the various fluid pressure supporting or suspension mechanisms are well known and conventional for supporting the bonding structure. One in the art would immediately appreciate that the fluid pressure structures or suspensions would reduce oscillation and improve the mechanical feedback of the motion of the movement mechanism. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize such elements in order to reduce oscillation and improve movement feedback.

As to claim 9, Orcutt discloses two sensors (see Figure 1, S1 and S2), one for detecting the position of each movable member. Additionally, Nihei as incorporated

discloses that it is known to utilize position calculating means and control means as claimed when utilize two movable members when connected as claimed (see Figure 4).

***Response to Arguments***

8. With respect the 102(f) rejections, applications position that the inventors are the same and that the "name difference" is a translation error in the Japanese reference. It is further noted that one name is in common (the Osamu portion), and that the document in question is the laid open application of the priority documents for the instant application.

9. Applicant's arguments filed 8/16/2005 have been fully considered but they are not persuasive.

10. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., 1st, at pp 5-6, that in Orcutt lacks "the pushing force...by element 15...is provided via rod 11 and moving parts 12a and 11a...", 2nd, in pg. 6, that in Orcutt lacks "the range of movement...is very small..., and 3rd, at pp 6, that Nihei does not do anything beyond retracting and extending) are not recited (or excluded) in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). None of these elements of the references are excluded by the claims.

11. In general, it appears that applicant has attempted to distinguish between the claims and Orcutt/Nihei by pointing to several elements/functions that are lacking in Orcutt and Nihei. However, none of these elements appear to be present in the claims.

12. With respect to claim 5, the bonding head of Orcutt appears to be attached through the center of gravity.

***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

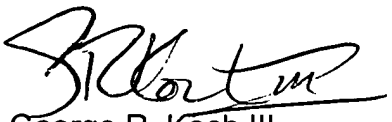
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and

giving the operator the above TDD number. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III
Primary Examiner
Art Unit 1734

GRK
10/31/2005